



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1077; Project Identifier MCAI-2020-00819-A]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Embraer S.A. Models EMB-500 and EMB-505 airplanes. This proposed AD was prompted by a report that the operational envelope does not contain airspeed limitations and procedures for operating the airplane at static air temperatures below -54°C. This proposed AD would require revising the airplane flight manual (AFM) to incorporate new and revised airspeed limitations and procedures. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this NPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, P.O. Box 36/2, São José dos Campos, 12227-901, Brazil; phone: +55 12 3927 1000; email: phenom.reliability@embraer.com.br; website: <https://www.embraer.com.br/en-US/Pages/home.aspx>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1077; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Jim Rutherford, Aviation Safety Engineer, FAA, General Aviation & Rotorcraft Section, International Validation Branch, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2020-1077; Project Identifier MCAI-2020-00819-A” at the beginning of your comments. The most helpful comments reference a specific portion of the

proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Jim Rutherford, Aviation Safety Engineer, FAA, General Aviation & Rotorcraft Section, International Validation Branch, 901 Locust, Room 301, Kansas City, MO 64106. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued ANAC AD 2020-05-03, effective June 1, 2020 (ANAC AD 2020-05-03) (also referred to after this as “the MCAI”), to correct an unsafe condition on

Embraer S.A. Models EMB-500 and EMB-505 airplanes with certain engines installed. Although the affected airplanes were designed for operation at temperatures below -54°C, the operational envelope in the AFM does not contain the necessary limitations and procedures to operate safely in these colder temperatures. The MCAI states that operation of the affected airplanes at static air temperatures below -54°C without these limitations could cause several systems and components to operate inadequately, resulting in multiple systems failures.

Accordingly, the MCAI requires updating the AFM to incorporate a modified operational envelope that establishes restrictions and minimum airspeed required for each static temperature range. The FAA is proposing this AD to prevent inadequate operation below the allowable temperature, which could result in multiple systems failures and compromise safe flight of the airplane.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1077.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Embraer Phenom Operational Bulletin No. 500-001/20, dated March 9, 2020; and Operational Bulletin No. 505-005/13, Revision 1, dated March 9, 2020. This service information specifies revising the AFM to incorporate limitations and procedures for the minimum airspeed in the affected region of the operational envelope. These documents are distinct since they apply to different airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement

with the State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA is issuing this NPRM after determining the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require revising the AFM by accomplishing the actions specified in the service information already described.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 590 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for Revising the AFM

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
.5 work-hour X \$85 per hour = \$42.50	\$0	\$42.50	\$25,075

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Embraer S.A.: Docket No. FAA-2020-1077; Project Identifier MCAI-2020-00819-A.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. Models EMB-500 and EMB-505 airplanes, all serial numbers, certificated in any category, with Model PW617F-E or PW617F1-E engines (for Model EMB-500 airplanes) or Model PW535E engines (for Model EMB-505 airplanes) installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 0200, Operations.

(e) Unsafe Condition

This AD was prompted by a report that the operational envelope does not contain airspeed limitations and procedures for operating the airplane at static air temperatures below -54°C. The FAA is issuing this AD to prevent inadequate operation below the allowable temperature. The unsafe condition, if not addressed, could result in multiple systems failures and compromise safe flight of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Revision of the Airplane Flight Manual (AFM)

Within 30 days after the effective date of this AD:

(1) For Model EMB-500 airplanes: Revise Section 2 Limitations and Section 5 Performance of the existing AFM for your airplane by incorporating the information in “V - OPERATING INFORMATION,” of Embraer Phenom Operational Bulletin No. 500-001/20, dated March 9, 2020.

(2) For Model EMB-505 airplanes: Revise Section 2 Limitations, Section 5 Performance, and Supplement 2 of the existing AFM for your airplane by incorporating the information in “V - OPERATING INFORMATION,” of Embraer Phenom Operational Bulletin No. 505-005/13, Revision 1, dated March 9, 2020.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send your request to the person identified in Related Information or email: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspection, the manager of the local Flight Standards District Office.

(i) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Agência Nacional de Aviação Civil AD 2020-05-03, effective June 1, 2020, for related information. This MCAI may be found in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-1077.

(2) For more information about this AD, contact Jim Rutherford, Aviation Safety Engineer, FAA, General Aviation & Rotorcraft Section, International Validation Branch, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

(3) For service information identified in this AD, contact Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, P.O. Box 36/2, São José dos Campos, 12227-901, Brazil; phone: +55 12 3927 1000; email: phenom.reliability@embraer.com.br; website: <https://www.embraer.com.br/en-US/Pages/home.aspx>. You may view this service information at the FAA, Airworthiness

Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued on July 27, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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